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13. (Amended) Process according to Claim 9, characterized in that additional process energy is supplied by burning a gas with an oxidant, where either

the air is supplied from the outside via the jacket connector (5) and the gas is added from the inside via gas connectors and inlet slots (6) and (7), or the gas is added from the outside (5) and the air is added from the inside via gas connectors and inlet slots (6) and (7), or the air supplied via the jacket connector (5) is electrically heated, flows through the porous wall and reacts exothermically with the stream of fuel gas added via the gas connector and inlet slots (6) and (7) and increases the reaction temperature.

- 14. (Amended) Process according to Claim 9, characterized in that powder materials having an average particle size of from 0.1 to 10μm are obtained.
- 15. (Amended) Process according to Claim 9, characterized in that the powder materials obtained do not comprise hard agglomerates.
- 16. (Amended) Process according to Claim 9, characterized in that the molecular weight fraction of any desired component of the powder material obtained differs by a maximum of 1.5% compared with the corresponding molecular weight fraction in the precursor solution, based on the corresponding molecular weight fraction in the precursor solution.